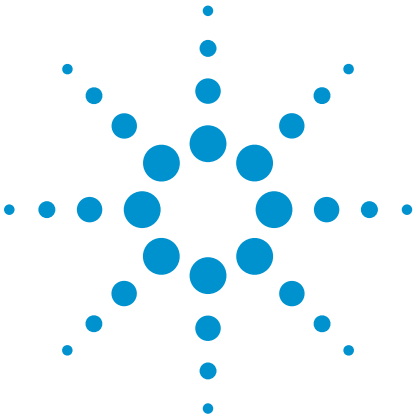


Agilent
Choosing the Right DC System Power Supply

Selection Guide

Agilent Technologies

Agilent Technologies Basic and High Performance DC Power Supplies

- Reliable
- Programmable
- Affordable
- Practical

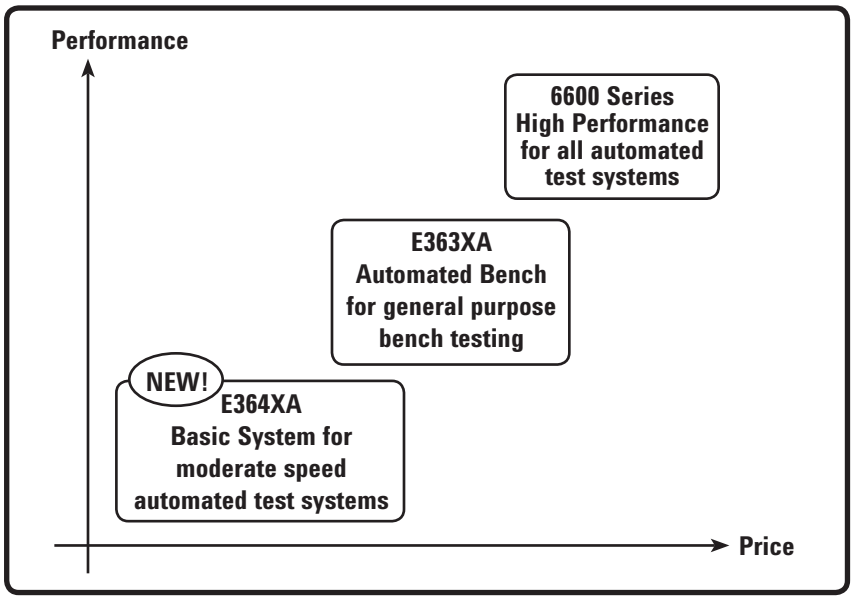
Reliable Power

We may live in an unpredictable world, but not when it comes to DC power for test. Agilent DC system power supplies are consistent, reliable performers, ready to handle the most demanding applications. Our high performance system solutions meet the most exacting needs for production test applications, while our basic DC power supplies provide essential features for a tight budget. In each case, you get stable, clean DC power at a great price, with the features you need and the day- to-day reliability you expect from Agilent.

- Excellent performance — low noise, excellent line and load regulation, fast transient response
- Programmable — GPIB or RS-232 interfaces, SCPI and VXI*plug&play* drivers
- Flexible — single and dual range, single/dual/triple outputs, 30W to 200W
- Affordable — industry-leading price/performance

Power to Choose

What type of power do you need? Agilent gives you choices.
Our 6600 Series high performance sources provide precise control over a range of output power levels with highly accurate measurements, so you can meet the most exacting needs for automated test applications. Agilent "E" series power supplies are available with a wide range of output levels, all providing essential capabilities at an economical price, with low ripple and noise, excellent regulation, and Agilent's trade-mark reliability. Whether you need a low-power source to provide bias power to circuits, to characterize components, or to make fast measurements, Agilent gives you power to choose.



Series	Models	Power Range	Voltage
E364XA	10	30W - 100W	8 V - 60 V
E363XA	4	80W - 200W	6 V - 50 V
661XC	4	40W, 50W	8 V - 100 V
663XB	4	80W, 100W	8 V - 100 V
664XA	5	200W	8 V - 120 V

E363X: Power to the Bench

Agilent E3631A - E3634A power supplies are designed for bench automation in R&D design and QA verification. Even at value prices, these power supplies deliver great features and power. Their low noise and excellent regulation are essential for R&D engineers who need to evaluate assemblies or applications, and for test engineers who need to develop repair strategies for production.

Hybrid regulation techniques create a denser, lighter package and a smaller footprint—key considerations when bench space is at a premium. Front panel output connections enable ease-of-use, while GPIB and RS-232 interfaces make for a versatile power source.

Key Features

- Power up to 200 watts and voltage ranges up to 50 volts
- Low noise and excellent regulation
- Overvoltage and overcurrent protection (except E3631A)
- Built-in GPIB and RS-232 interfaces
- Dual-range outputs in the E3632A, E3633A, and E3634A for great coverage of voltage and current for various applications
- Triple output on the E3631A allows for flexibility in mixed-signal applications (such as providing analog and digital bias power) and for tracking feature ± 25V outputs
- Front and rear output on E3633A and E3634A
- 1-year warranty

Typical Applications

- General Purpose Bench Testing either in R&D or in Production
- QA Verification

Figure 1: E364X: Basic System Power

E364X: Basic System Power

The Agilent E3640A - E3649A power supplies fill the gap between manual bench power supplies and high performance system supplies, offering unmatched performance and functionality at a great price. They're designed for moderate speed test where automation is important and throughput is not critical. These single- and-dual-output, dual-range power supplies are ideal for contract manufacturers and OEMs who need to perform basic electronic functional tests on a variety of products quickly and economically.

All models support GPIB and RS-232 for quick connectivity. SCPI (Standard Commands for Programmable Instruments) keeps programming fast and simple. Less than 90 ms output settling time keeps throughput high without the need for a down programmer. Up to five store/recall states help minimize programming time while accelerating test. Remote sensing capability ensures output stability with longer leads.

Key Features

- Power up to 100 watts and 60 volts
- Low output noise and excellent regulation
- Overvoltage and overcurrent protection
- Front binding posts and rear output terminals for configuration flexibility
- Front-panel calibration—unit does not need to be removed from the rack
- Built-in GPIB and RS-232 interfaces
- Simple set-up for easy programming
- 1-year warranty

Typical Applications

- Flexible Low Volume Production Testing
- Sub-assembly Test
- Bias Power for Circuits

Figure 2. E3640A Dual Range Power Supply

6600: High Performance System Solutions

Do you need a power supply with excellent performance and built-in measurement capability? Agilent 6600 Series systems are ideal for production test applications where throughput is critical and rack space is at a premium. These one-box solutions reduce integration time and increase system reliability, and offer a variety of features to reduce test costs, increase test speed, and lower the cost of integration and ownership.

Compared to the "E" series, output transitions are over ten times faster, measurement times are up to five times faster, and program response and command processing times are accelerated. The built-in DMM allows for more accurate measurement capability. Throughput is significantly enhanced via the active down programmer that can quickly remove any energy from the unit under test when the output is programmed to zero. Extended remote sensing capability compensates for voltage drops in load leads of up to 50 percent of the rated output voltage, eliminating troublesome sourcing and measurement inaccuracies due to resistance in the load wiring.

Key Features

- Up to 200W and 120V
- Excellent regulation and low output noise
- Overvoltage and overcurrent protection
- Built-in GPIB and RS-232 (664XA - GPIB only)
- Discrete Fault Interrupt and Remote Inhibit (DFI/RI) for fast remote power disablement
- Analog programming capability simulates a true power source and serial link to control up to 16 supplies from one address (664XA only)
- 1-year warranty

Typical Applications

- Production Testing
- Electronic Sub-assembly Test
- Battery Test
- Battery Charging

Figure 3. 6600 Series High Performance System Power Supply

Quick Comparison of Agilent Technologies 30W to 200W Low Power DC Power Supplies

Features	E363XA	E364XA	661XC	663XB	664XA
No. of Models	4	10	4	4	5
Delivery	< 1 week, typically	< 1 week, typically	1 week	1 week	1 week
No. of Outputs	1 or 3	1 or 2	1	1	1
Applications	Semi-automated general purpose bench testing	Moderate speed semi-automated and automated production test	High performance automated production test	High performance automated production test	High performance automated production test
Size	Half rack, 3U	Half rack, 2U/3U	Half rack, 2U	E3631/2A, Front only	E3631/2A, Front only
Connections	E3631/2A, Front only E3633/4A, Front & rear	Front & rear	Rear only	Rear only	Rear only
Programming	GPIB and RS-232	GPIB and RS-232	GPIB and RS-232	GPIB and RS-232	GPIB only
Programmable Wakeup State	No	No	Yes	Yes	Yes
Throughput Capabilities					
Output rise/fall	130 to 550 ms	<90 ms	6 ms	6 ms	35 ms
Transient Response	<50 µs for output to recover within 15 mV following a change in output current	<50 µs for output to recover within 15 mV following a change in output current	100 µs (50 µs in the fast mode) for output voltage to recover from zero to full load within 20 mV	100 µs (50 µs in the fast mode) for output voltage to recover from zero to full load within 20 mV	100 µs for output voltage to recover from zero to full load within 20 mV
DFI/RI	Relay control available from pin 1 of RS-232 connector	Relay control available from pin 1 of RS-232 connector	Allows shut down of multiple supplies or other h/w, provides for output relay control	Allows shut down of multiple supplies or other h/w, provides for output relay control	Allows shut down of multiple supplies or other h/w, provides for output relay control
Active Down Programmer	No	No	Yes	Yes, negative current is programmable	Yes, sinks 20% of rated output current
Performance					
Ripple and Noise (20 Hz to 20 MHz)	2 – 3 mVpp/ 0.35 – 0.5 mVrms	<5 mVpp/0.5 mVrms for 8V/20V models <8 mVpp/1 mVrms for 35 V/60 V models	3 mVpp/0.3 mVrms for 8 V/20 V models 3 mVpp/0.5 mVrms for 50V model 3 mVpp/0.5 mVrms for 100 V model	3 mVpp/0.3 mVrms for 8 V/20 V models 3 mVpp/0.5 mVrms for 50V model 3 mVpp/0.5 mVrms for 100 V model	3 mVpp/0.3 mVrms for 8 V/20 V models 4 mVpp/400 mVrms for 35V model 5 mVpp/500 mVrms for 60V model 7 mVpp/700 mVrms for 120V model
Line/Load Regulation	Voltage <0.01% + 2 mV Current <0.01% + 250 mA	Voltage <0.01% + 3 mV Current <0.01% + 250 mA	Voltage 0.5 mV – 5 mV Current 0.25 mA – 1 mA	Voltage 0.5 mV – 5 mV Current 0.25 mA – 1 mA	Voltage 0.5 mV – 5 mV Current 0.25 mA – 1 mA
Remote Sensing	Can drop up to 0.7 V in each load lead E3631A, None	Can drop up to 1 V in each load lead	Can drop up to 2 V in each load lead	Can drop up to 2 V in each load lead	Can drop up to 2 V in each load lead
Meters	4 or 5 digit voltage/ 4 digit current	4 digit	4 digit	4 digit	4 digit

To Learn More

For more information on choosing the best Agilent DC system power supply for your application, visit **www.agilent.com/find/dcpowersupply** or call Agilent DIRECT in the U.S.A. at **800-452-4844**.

Agilent Email Updates

www.agilent.com/find/emailupdates
Get the latest information on the products and applications you select.

Agilent Direct

www.agilent.com/find/agilentdirect
Quickly choose and use your test equipment solutions with confidence.

Agilent Open

www.agilent.com/find/open
Agilent Open simplifies the process of connecting and programming test systems to help engineers design, validate and manufacture electronic products. Agilent offers open connectivity for a broad range of system-ready instruments, open industry software, PC-standard I/O and global support, which are combined to more easily integrate test system development.

Remove all doubt

Our repair and calibration services will get your equipment back to you, performing like new, when promised. You will get full value out of your Agilent equipment throughout its lifetime. Your equipment will be serviced by Agilent-trained technicians using the latest factory calibration procedures, automated repair diagnostics and genuine parts. You will always have the utmost confidence in your measurements.

Agilent offers a wide range of additional expert test and measurement services for your equipment, including initial start-up assistance, onsite education and training, as well as design, system integration, and project management.

For more information on repair and calibration services, go to:

www.agilent.com/find/removealldoubt

www.agilent.com

For more information on Agilent Technologies' products, applications or services, please contact your local Agilent office. The complete list is available at:

www.agilent.com/find/contactus

Americas

Canada	(877) 894-4414
Latin America	305 269 7500
United States	(800) 829-4444

Asia Pacific

Australia	1 800 629 485
China	800 810 0189
Hong Kong	800 938 693
India	1 800 112 929
Japan	0120 (421) 345
Korea	080 769 0800
Malaysia	1 800 888 848
Singapore	1 800 375 8100
Taiwan	0800 047 866
Thailand	1 800 226 008

Europe & Middle East

Austria	0820 87 44 11
Belgium	32 (0) 2 404 93 40
Denmark	45 70 13 15 15
Finland	358 (0) 10 855 2100
France	0825 010 700*
	*0.125 €/minute
Germany	01805 24 6333**
	**0.14 €/minute
Ireland	1890 924 204
Israel	972-3-9288-504/544
Italy	39 02 92 60 8484
Netherlands	31 (0) 20 547 2111
Spain	34 (91) 631 3300
Sweden	0200-88 22 55
Switzerland	0800 80 53 53
United Kingdom	44 (0) 118 9276201

Other European Countries:
www.agilent.com/find/contactus

Revised: March 27, 2008

Product specifications and descriptions in this document subject to change without notice.

© Agilent Technologies, Inc., 2001 – 2008
Printed in USA, April 3, 2008
5988-1024EN

Agilent Technologies